UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/675,984	09/29/2000	Jae Gon Kim	300055.468	1749

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Seed Intellectual Property Law Group PLLC
Suite 6300
701 Fifth Avenue
Seattle, WA 98104-7092

EXAMINER
BUI, KIEU OANH T

ART UNIT	PAPER NUMBER
2611	

DATE MAILED: 05/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

		Application No.		Applicant(s)	
Office Action Summary		09/675,984		KIM ET AL.	
		Examiner		Art Unit	
		KIEU-OANH T BUI		2611	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
   closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-32</u> is/are pending in the application.
   4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) <u>1-32</u> is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☐ All b) ☐ Some * c) ☐ None of:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. _____.
    3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
       application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)
1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Abstract

1.   Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to **a single paragraph on a separate sheet** within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

As noted above, a single paragraph for the Abstract is stated. Appropriate correction is required.

Claim Objections

2.   Claim 2 is objected to because of the following informalities: --one lower level HighlightLevel DSs—should be corrected as --one lower level HighlightLevel DS— (without an "s" for singular, not plural).   Appropriate correction is required.

3.   Claim 4 is objected to because of the following informalities: claim 4 should be at the start of a paragraph itself, not a continuation of claim 3 as presently cited. Correction is required.

Claim Rejections - 35 USC 102

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> *A person shall be entitled to a patent unless –*
>
> *(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.*
>
> *The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).*

5.   Claims 1-32 are rejected under 35 U.S.C. 102(e) as being anticipated by Sezan et al.

(U.S. Patent No. 6,236,395 B1/ or "Sezan" hereinafter).

Regarding claim 1, Sezan discloses "a HierarchicalSummary Description Scheme (DS)

for describing a video summary, the HierarchicalSummary DS comprises at least one

HighlightLevel DS which is describing highlight level, wherein said HighlightLevel DS

comprises at least one HighlightSegment DS which is describing highlight segment information

constituting the summary video of the highlight level", i.e., a highlight summarizer 78 describes

highlight level and highlight segment information, which helps to form a summary video of the

highlight level within a hierarchical summary description scheme (Fig. 1/item 18 for a program

summary description scheme, Fig. 3/item 78 for a highlight summarizer, Fig. 13 for a

hierarchical structure of program description scheme with the use of segment description scheme

and event description scheme; see col. 1/lines 55-67 for program summary description scheme

DS, col. 4/line 40 to col. 5/line 32 for the highlight levels, col. 27/lines 13-43 for segment

description scheme & col. 27/line 55 to col. 28/line 9 for events addressed).

As for claim 2, in further view of claim 1, Sezan discloses "wherein said HighlightLevel

DS is composed of at least one lower level HighlightLevel DS", i.e., low level features from

program description scheme are used for automatically analysis methods (col. 8/lines 18-29)

As for claim 3, in further view of claim 1, Sezan further discloses "wherein said

HighlightSegment DS comprises a VideoSegmentLocator DS which is describing time

information or video itself of said corresponding highlight segment", i.e., a key frame view

serves as video segment locator for providing time stamps or other video information is included

within the highlight segment (col. 4/lines 55-67).

As for claim 4, in further view of claim 3, Sezan further discloses "wherein said

HighlightSegment DS further comprises ImageLocator DS which is describing the representative

frame of said corresponding highlight segment" (Figs. 7-10 shows examples for describing the

concerned issue for frame view, highlight view etc.).

As for claim 5, in further view of claim 3, Sezan further discloses "wherein said

HighlightSegment DS further comprises SoundLocator DS which is describing the representative

sound information of said corresponding highlight segment", i.e., audio and video or namely

audiovisual information is included within the highlight segment (col. 5/lines 10-32 for audio

annotation, and col. 9/line 34 to col. 10/line 37 for an example for using the highlights with audio

and visual information).

As for claim 6, in further view of claim 3, Sezan discloses "wherein said Highlight Segment DS further comprises ImageLocator DS which is describing the representative frame of said corresponding highlight segment and SoundLocator DS which is describing the representative sound information of said corresponding highlight segment" (see claims 4 and 5 above).

As for claims 7 and 8, in further view of claim 4, Sezan further discloses "wherein said ImageLocator DS describes time information or image data of the representative frame of video interval corresponding to said corresponding highlight segment" and "wherein said HighlightSegment DS further comprises Audio SegmentLocator DS which is describing the audio segment information constituting an audio summary of said corresponding highlight segment" (Fig. 16 for image and audio segment information with corresponding time information and audio summary as well as frame of video interval addressed, col. 27/lines 13-43; and col. 5/lines 10-32 for audio annotation).

As for claim 9, in further view of claim 8, Sezan further discloses "wherein said AudioSegmentLocator DS describes time information or audio data of the audio interval of said corresponding highlight segment" (Fig. 16 shows time reference according to key frame scheme and segment description scheme, with the understanding that audiovisual information is included as discussed in claim 5 above).

As for claim 10, in further view of claim 1, Sezan further suggests "wherein said HierarchicalSummary DS includes SummaryComponentList describing and enumerating all of the SummaryComponentTypes which is included in the HierarchicalSummary DS", i.e., identification of key frames, segment definitions, representative of the video, individual shots or

scenes, thumbnail set of frames, highlight definitions etc. are used for identifying the list of

components in the program description summary (col. 4/line 40 to col. 5/line 9).

As for claim 11, in further view of claim 10, Sezan further suggests "wherein said

SummaryComponentType includes keyFrames representing the key frame summary composed

of representative frames, keyVideoClips representing the key video clip summary composed of

key video segment' sets, keyEvents representing the summary of the video interval

corresponding to either the event or the subject, keyAudioClips representing the key audio clip

summary composed of representative audio intervals' sets, and unconstraint representing the type

of summary defined by users except for said summaries" (as discussed in claim 11 above, see

col. 4/line 40 to col. 5/line 31 for further details on video clips and audio clips—or audio

annotations).

As for claims 12-13, in further view of claim 1, Sezan further suggests "wherein said

HierarchicalSummary DS includes SummaryThemeList DS which is enumerating the event or

subject comprised in the summary and describing the ID and then describes event based

summary and permits the users to browse the summary video by the event or subject described in

said SummaryThemeList" and "wherein said SummaryThemeList DS includes arbitrary number

of SummaryThemes as elements and said SummaryTheme includes an attribute of id

representing the corresponding event or subject" (Figs. 13-15 and Fig. 16, and col. 26/line 29 to

col. 27/line 43 for event or subject and theme together with IDs for corresponding event or

subject).

As for claim 14-16, in further view of claim 13, Sezan discloses "wherein said SummaryTheme further includes an attribute of parentID which is to describe the id of the event or subject of the upper level"; "wherein said HighlightLevel DS includes an attribute of theme IDs describing said attribute of ids of common events or subjects if all of the HighlightSegments and HighlightLevels which are constituting corresponding highlight level have common events or subjects"; and "wherein said HighlightSegment DS includes an attribute of theme IDs describing said attribute of ID and describes the event or subject of the corresponding highlight segment" (Figs. 13-16 & Fig. 19, and col. 27/line 13 to col. 28/line 9 with highlight segment and theme IDs addressed).

Regarding claim 17, Sezan discloses "a computer-readable recording medium where a HierarchicalSummary DS is stored therein, the HierarchicalSummary DS comprises at least one HighlightLevel DS which is describing highlight level, wherein said HighlightLevel DS comprises at least one HighlightSegment DS which is describing highlight segment information constituting the summary video of that the highlight level, wherein said HighlightSegment DS comprises VideoSegmentLocator DS describing time information or video itself of said corresponding highlight segment" (see claims 1-3 above, with a computer readable recording medium as shown in Fig. 2 and col. 7/line 50 to col. 8/line 29).

Regarding claim 18, Sezan discloses "a method for generating video summary description data according to video summary description scheme by inputting original video, comprising: video analyzing step which is producing video analysis result by inputting the original video and then analyzing the original video; summary rule defining step which is defining the summary rule for selecting summary video interval; summary video interval

selecting step which is constituting summary video interval information by selecting the video

interval capable of summarizing video contents from the original video by inputting said original

video analysis result and said summary rule; and video summary describing step which is

producing video summary description data according to the HierarchicalSummary DS by

inputting the summary video interval information output by said summary video interval

selecting step" (see claims 1-4 and 10, with a video analyzing step using analysis manager 70,

summary rule using highlight summarizer 78 and keyframe summarizer 76 for selecting

summary video interval or segments as shown in Fig. 2, and summary is displaying to the user as

show in Figs. 7-12 by selecting frame or summary etc. on the screen).

      As for claim 19, in further view of claim 18, Sezan discloses "wherein said

HierarchicalSummary DS comprises at least one HighlightLevel DS which is describing

highlight level, wherein said HighlightLevel DS comprises at least HighlightSegment DS which

is describing highlight segment information constituting the summary video of the highlight

level, wherein said HighlightSegment DS comprises VideoSegmentLocator DS describing time

information or video itself of said corresponding highlight segment" (see claims 1-3 above).

      As for claim 20, in further view of claim 18, Sezan further discloses "wherein said video

analyzing step comprises: feature extracting step which is outputting the types of features and

video time interval at which those features are detected by inputting the original video and

extracting those features; event detecting step which is detecting key events included in the

original video by inputting said types of features and video time interval at which those features

are detected; and episode detecting step which is detecting episode by dividing the original video

into story flow base on the basis of said detected event", i.e., module 52 extracts information

based on types of features (col. 9/lines 9-26); and the event detecting step according to features, key events, program segment or event segment is discussed in claims 11-12 above.

As for claims 21-23, in view of claim 18, these claims for the steps of "wherein said summary rule defining step provides the types of summary events, which are bases in selecting the summary video interval, after defining them to said video summary describing step"; "representative frame extracting step which is providing the representative frame to said video summary describing step by inputting said summary video interval information and extracting representative frame"; and "representative sound extracting step which is providing the representative sound to said video summary describing step by inputting said summary video interval information and extracting representative sound" as described in earlier claims 4-8, but not limited to those claims but to the entire related features through out the claims.

Regarding claims 24-31, these claims for "a computer-readable recording medium where a program is stored therein, the program is to execute: feature extracting step which is outputting the types of features and video time interval at which those features are detected; event detecting step which is detecting key events included in the original video by inputting said types of features and said video time interval at which those features are detected; episode detecting step which is detecting episode by dividing the original video into story flow base on the basis of said detected key events; summary rule defining step which is defining the summary rule for selecting the summary video interval; summary video interval selecting step which is constituting summary video interval information by selecting the video interval capable of summarizing the video contents of the original video by inputting said detected episode and said summary rule; and video summary describing step which is generating video summary description data with

HierarchicalSummary DS by inputting the summary video interval information output by said summary video interval selecting step"; "a system for generating video summary description data according to video summary description scheme by inputting original video, comprising: video analyzing means for outputting video analysis result by inputting original video and analyzing the original video; summary rule defining means for defining the summary rule for selecting the summary video interval; summary video interval selecting means for constituting summary video interval information by selecting the video interval capable of summarizing the video contents of the original video by inputting said video analysis result and said summary rule; and video summary describing means for generating video summary description data with HierarchicalSummary DS by inputting the summary video interval information output by said summary video interval selecting means"; and "a computer-readable recording medium where a program is stored therein, the program is for functioning: feature extracting means for outputting the types of features and video time interval at which those features are detected; event detecting means for detecting key events included in the original video by inputting said types of features and said video time interval at which those features are detected; episode detecting means for detecting episode by dividing the original video into story flow base on the basis of said detected key events; summary rule defining means for defining the summary rule for selecting the summary video interval; summary video interval selecting means for constituting summary video interval information by selecting the video interval capable of summarizing the video contents of the original video by inputting said detected episode and said summary rule; and video summary describing means for generating video summary description data with HierarchicalSummary DS by inputting the summary video interval information output by said summary video interval

selecting step" with same limitations are rejected for the reasons given in the scope of claims 1-17 as discussed in details above.

Regarding claim 32, Sezan discloses "a video browsing system in a server/client circumstance, comprising: a server which is equipped with video summary description data generation system which generates video summary description data on the basis of HierarchicalSummary DS by inputting original video and links said original video and video summary description data; and a client which is browsing and navigating video by overview of said original video and access to the original video of said server using said video summary description data" (Fig. 2 for a server/client system, and col. 3/line 15 to col. 5/line 32 for methods of navigation or browsing video by overview of the original video and the user can access to the server using video summary description data, as shown in Figs. 4-12, and claims 1-10 above for already addressed limitations).

Conclusion

6.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Madrane (U.S. Pat. No.6,573,907 B1) discloses a network distribution and management of interactive video and multi-media containers.

Appelt et al. (U.S. Pat. No.6,601,026 B2) disclose an information retrieval by natural language querry.

Goldberg et al. (U.S. Pat. No.5,963,203) disclose an interactive video icon with designated viewing position.

7. **Any response to this action should be mailed to:**

> Commissioner of Patents and Trademarks
> Washington, D.C. 20231

   or faxed to:

> **(703) 872-9306, (for Technology Center 2600 only)**

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krista Kieu-Oanh Bui whose telephone number is (703) 305-0095. The examiner can normally be reached on Monday-Friday from 9:00 AM to 6:30 PM, with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner s supervisor, Andrew Faile, can be reached on (703) 305-4380.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

KRISTA BUI
PATENT EXAMINER

Krista Bui
Art Unit 2611
April 28, 2004